

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A method of detecting the modification of a substrate, comprising the steps of:

- a) exposing an unmodified substrate to a sample under conditions that will result in a modification of the substrate, the unmodified substrate including a peptide and a first colorimetric component, the first ~~colorimetric~~ colorimetric component coupled to the peptide; and
- b) detecting a modification of the substrate or an absence of the modification of the substrate, wherein the modification comprises cleaving the first colorimetric component from the substrate and results in a visible color change.

Claim 2 (Original): A method according to claim 1, wherein the first colorimetric component is covalently bonded to the peptide.

Claim 3 (Previously Presented): A method according to claim 1, wherein the modification includes hydrolysis of a peptide bond and results in a portion of the peptide detaching from the substrate.

Claim 4 (Currently Amended): A method according to claim 1, wherein the substrate includes at least one member of the group consisting of the peptide sequence LLGDDFRKSKEKIGKEFKRIVXRIKDFLRNLPRTES (SEQ ID NO: 1), the peptide sequence KAAHKSALKSAE (SEQ ID NO: 2), the peptide sequence KKASEAAHKSALKSAE (SEQ ID NO: 3), the peptide sequence

CHHHASEAAHKSALKSAE (SEQ ID NO: 4), the peptide sequence KHLGGGALGGGAKE (SEQ ID NO: 5), the peptide sequence KHLGGGGGAKE (SEQ ID NO: 6), the peptide sequence ACCDEYLQTKA (SEQ ID NO: 7), the peptide sequence ADTVEPTGAKE (SEQ ID NO: 8), the peptide sequence KLPHKLSWSADNP (SEQ ID NO: 9), the peptide sequence PVPSTPPTPSPSTP (SEQ ID NO: 10), the peptide sequence NMLSEVERE (SEQ ID NO: 11), the peptide sequence KQNMLSEVERADTE (SEQ ID NO: 12), the peptide sequence NEAIQEDQVQYE (SEQ ID NO: 13), the peptide sequence ETKVEENEAIQK (SEQ ID NO: 14), the peptide sequence DSRPVRRRRRPRVSK (SEQ ID NO: 15), the peptide sequence KVSRRRRRGGD (SEQ ID NO: 16), the peptide sequence KKASEVSRRRRRGGK (SEQ ID NO: 17), the peptide sequence CHHHASEVSRRRRRGGK (SEQ ID NO: 18), the peptide sequence KEKIGKEFKRIVQE (SEQ ID NO: 19), the peptide sequence KVQRIKDFLRNLVE (SEQ ID NO: 20), the peptide sequence EAAGAMFLEAIPK (SEQ ID NO: 21), the peptide sequence EGAMFLEAIPMSIPK (SEQ ID NO: 22), the peptide sequence CGAMFLEAIPMSIPAAHHHHH (SEQ ID NO: 23), the peptide sequence KARRRRRGGGAMFLEAIPMSIPCGC (SEQ ID NO: 24), the peptide sequence VSRRRRRGGDGDGC (SEQ ID NO: 25), the peptide sequence GGDGDGC (SEQ ID NO: 26), the peptide sequence VSRRRRRGGDGKGDAC (SEQ ID NO: 27), the peptide sequence NEAIQEDQVQARRAKARRAC (SEQ ID NO: 28), the peptide sequence QVQARRAKARRAC (SEQ ID NO: 29), the peptide sequence GGDGKGDAC (SEQ ID NO: 30), the peptide sequence QVQARRAKARRAC (SEQ ID NO: 31), the peptide sequence VSRRRRRGGKGC (SEQ ID NO: 32), the peptide sequence SVTRRRRRGGRASGGC (SEQ ID NO: 33), the peptide sequence SEAIQEDQVQYCAAHHHHH (SEQ ID NO: 34), the peptide sequence KARRRRRGGDGDGCGC (SEQ ID NO: 35), the peptide sequence HHHHHSRRRRRGGCGC (SEQ ID NO: 36), the peptide sequence HHHHHSVQRIKDFLRNLVCGC (SEQ ID NO: 37), the peptide sequence RRRRRSVQRIKDFLRNLVCGC (SEQ ID NO: 38), the peptide sequence

Application No.: 10/576,634

Dated: April 7, 2009

Reply to Office Action Mailed: February 10, 2009

HHHHHAAHKSALKSACGC (SEQ ID NO: 39), the peptide sequence
RRRRRAAHKSALKSACGC (SEQ ID NO: 40), the peptide sequence
PGTKLYTPW (SEQ ID NO: 41), an Alt derived peptide, a peptidoglycans,
lipoteichoic acid, and a lipid vesicle.

Claim 5 (Currently Amended): A method according to claim 1, wherein the first ~~calorimetric~~ colorimetric component is one of the members of the group consisting of a dye; a reactive dye; a fiber reactive dye; a dye suitable for use in a contact lens; a dye suitable for use in a suture; a monohalogenotriazine dye; a dihalogenotriazine dye; a 2,4,5 trihalogenopyrimidinidine dye; a 2,3 dihaloquinoxaline dye; a N-hydroxysulfosuccinimidyl a (sulfo-NHS) ester functionalized dye; a N-hydroxysuccinimidyl (NHS) functionalized dye; a vinyl sulfone dye; a sulfonyl chloride dye; a tetrafluorophenyl ester functionalized dye; an isothiocyanate functionalized dye; and an iodoacetyl functionalized dyes.

Claim 6 (Previously Presented): A method according to claim 1, wherein the visible color change is a loss of color.

Claim 7 (Currently Amended): A method according to claim 1, wherein the unmodified substrate further includes a second ~~calorimetric~~ colorimetric component that is dissimilar to the first colorimetric component.

Claim 8 (Previously Presented): A method according to claim 1, wherein the peptide is coupled to a solid support.

Claim 9 (Original): A method according to claim 8, wherein the modification of the substrate results in a hue of the solid support becoming more visible.

Claim 10 (Previously Presented): A method according to claim 8, wherein the peptide is covalently attached to the solid support.

Claim 11 (Previously Presented): A method according to claim 8, wherein the solid support is selected from the group consisting of a wound dressing, a sterilized material, an article that contains the sample, an article that collects the sample, a polymer, a membrane, a resin, glass, a sponge, a disk, a scope, a filter, a lens, a foam, a cloth, a paper, a suture, and a bag.

Claim 12 (Previously Presented): A method according to claim 1, wherein the sample is at least one of the group consisting of a wound surface on a subject, a body fluid, a piece of hair, a piece of nail, a piece of shell, a piece of scale, a piece of feather, a piece of tissue, an article implanted in the body of an animal, catheter, a urine collection bag, a blood collection bag, a plasma collection bag, a disk, a scope, a filter, a lens, foam, cloth, paper, a suture, a swab, a dipstick, a sponge, a polymeric article, an article made of a resin, a glass article, a test tube, a well of a microplate, a portion of contact lens solution, a sponge, a polymeric material, a membrane, an article made of resin, an article made of glass, and a swab.

Claim 13 (Currently Amended): A method according to claim 1, wherein modification of the substrate includes cleaving a portion of the peptide to produce a cleaved portion, the cleaved portion including the first ~~calorimetric~~ colorimetric component, the modification resulting in the migration of the cleaved portion toward a collector, and the migration resulting in a visible color change.

Claim 14 (Original): A method according to claim 13, wherein the collector includes at least one material selected from the group consisting of a membrane, a resin, a polymer, a film, glass, or a chelating material.

Claim 15 (Previously Presented): A method according to claim 1, wherein modification of the substrate is used to indicate the presence of a bacterial

Application No.: 10/576,634

Dated: April 7, 2009

Reply to Office Action Mailed: February 10, 2009

enzyme selected from the group consisting of a lysin, an autolysin, a lipase, an exotoxin, a cell wall enzyme, a matrix binding enzyme, a protease, a hydrolase, a virulence factor enzyme, and a metabolic enzyme.

Claim 16 (Currently Amended): A biosensor for detecting the presence or absence of a protein, the biosensor comprising a peptide that specifically reacts with a protein and a first ~~calorimetric~~ colorimetric component coupled to the peptide.

Claim 17 (Original): A biosensor according to claim 16, wherein the first colorimetric component is covalently bonded to the peptide.

Claim 18 (Currently Amended): A biosensor according to claim 16, wherein the substrate includes at least one member of the group consisting of the peptide sequence LLGDDFRKSKEKIGKEFKRIVXRIKDFLRNLPRTES (SEQ ID NO: 1), the peptide sequence KAAHKSALKSAE (SEQ ID NO: 2), the peptide sequence KKASEAAHKSALKSAE (SEQ ID NO: 3), the peptide sequence CHHHASEAAHKSALKSAE (SEQ ID NO: 4), the peptide sequence KHLGGGALGGGAKE (SEQ ID NO: 5), the peptide sequence KHLGGGGGAKE (SEQ ID NO: 6), the peptide sequence ACCDEYLQTK (SEQ ID NO: 7), the peptide sequence ADTVEPTGAKE (SEQ ID NO: 8), the peptide sequence KLPHKLSWSADNP (SEQ ID NO: 9), the peptide sequence PVPSTPPTPSPSTP (SEQ ID NO: 10), the peptide sequence NMLSEVERE (SEQ ID NO: 11), the peptide sequence KQNMLSEVERADTE (SEQ ID NO: 12), the peptide sequence NEAIQEDQVQYE (SEQ ID NO: 13), the peptide sequence ETKVEENEAIQK (SEQ ID NO: 14), the peptide sequence DSRPVRRRRRPRVSK (SEQ ID NO: 15), the peptide sequence KVSRRRRRRGGD (SEQ ID NO: 16), the peptide sequence KKASEVSRRRRRGGK (SEQ ID NO: 17), the peptide sequence CHHHASEVSRRRRRGGK (SEQ ID NO: 18), the peptide sequence KEKIGKEFKRIVQE (SEQ ID NO: 19), the peptide sequence KVQRIKDFLRNLVE

(SEQ ID NO: 20), the peptide sequence EAAGAMFLEAIPK (SEQ ID NO: 21), the peptide sequence EGAMFLEAIPMSIPK (SEQ ID NO: 22), the peptide sequence CGAMFLEAIPMSIPAAHHHHH (SEQ ID NO: 23), the peptide sequence KARRRRRGGGAMFLEAIPMSIPCGC (SEQ ID NO: 24), the peptide sequence VSRRRRRGGDGDGC (SEQ ID NO: 25), the peptide sequence GGDGDGC (SEQ ID NO: 26), the peptide sequence VSRRRRRGGDGKGDAC (SEQ ID NO: 27), the peptide sequence NEAIQEDQVQARRAKARRAC (SEQ ID NO: 28), the peptide sequence QVQARRAKARRAC (SEQ ID NO: 29), the peptide sequence GGDGKGDAC (SEQ ID NO: 30), the peptide sequence QVQARRRAKARRAC (SEQ ID NO: 31), the peptide sequence VSRRRRRGGKGC (SEQ ID NO: 32), the peptide sequence SVTRRRRRGGRASGGC (SEQ ID NO: 33), the peptide sequence SEAIQEDQVQYCAAHHHHH (SEQ ID NO: 34), the peptide sequence KARRRRRGGDGDGCGC (SEQ ID NO: 35), the peptide sequence HHHHHSRRRRRGGCGC (SEQ ID NO: 36), the peptide sequence HHHHHSVQRIKDFLRNLVCGC (SEQ ID NO: 37), the peptide sequence RRRRRSVQRIKDFLRNLVCGC (SEQ ID NO: 38), the peptide sequence HHHHHAHKSALKSACGC (SEQ ID NO: 39), the peptide sequence RRRRRAHKSALKSACGC (SEQ ID NO: 40), the peptide sequence PGTKLYTPW (SEQ ID NO: 41), an Alt derived peptide, a peptidoglycans, lipoteichoic acid, and a lipid vesicle.

Claim 19 (Previously presented): A biosensor according to claim 16, wherein the first colorimetric component is one of the members of the group consisting of a dye; a reactive dye; a fiber reactive dye; a dye suitable for use in a contact lens; a dye suitable for use in a suture; a monohalogentriazine dye; a dihalogentriazine dye; a 2,4,5 trihalogenopyrimidine dye; a 2,3 dihaloquinoxaline dye; a N-hydroxysulfosuccinimidyl a (sulfo-NHS) ester functionalized dye; a N-hydroxysuccinimidyl (NHS) functionalized dye; a vinyl sulfone dye; a sulfonyl

Application No.: 10/576,634

Dated: April 7, 2009

Reply to Office Action Mailed: February 10, 2009

chloride dye; a tetrafluorophenyl ester functionalized dye; an isothiocyanate functionalized dye; and an iodoacetyl functionalized dyes.

Claim 20 (Currently amended): A biosensor according to claim 16, further including a second ~~calorimetric~~ colorimetric component coupled to the peptide, the first ~~calorimetric~~ colorimetric component being dissimilar to the first colorimetric component.

Claim 21 (Previously presented): A biosensor according to claim 16, further including a solid support, the peptide coupled to the solid support.

Claim 22 (Original): A biosensor according to claim 21, wherein the peptide is covalently attached to the solid support.

Claim 23 (Previously presented): A biosensor according to claim 21, wherein the solid support is selected from the group consisting of a wound dressing, a sterilized material, an article that contains a sample, an article that collects a sample, a polymer, a membrane, a resin, glass, a sponge, a disk, a scope, a filter, a lens, a foam, a cloth, a paper, a suture, and a bag.

Claim 24 (Previously presented): A biosensor according to claim 16, further including a collector that includes at least one material selected from the group consisting of a membrane, a resin, a polymer, a film, glass, or a chelating material.

Claim 25 (Previously presented): A biosensor according to claim 16, wherein the peptide includes a sequence that specifically reacts with an enzyme selected from the group consisting of a lysin, an autolysin, a lipase, an exotoxin, a cell wall enzyme, a matrix binding enzyme, a protease, a hydrolase, a virulence factor enzyme, and a metabolic enzyme.

Application No.: 10/576,634

Dated: April 7, 2009

Reply to Office Action Mailed: February 10, 2009

Claim 26 (Previously presented): A kit for detecting a protein, comprising a biosensor according to claim 16 and at least one reagent.